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(54) SEASONING ENHANCED IN MELLOWNESS, AFTERTASTE AND DELICIOUSNESS

(57)Abstract:
PROBLEM TO BE SOLVED: To obtain an oil-in-water seasoning containing marine product oil (especially, fish oil) and enhanced in mellowness, aftertaste and deliciousness.
SOLUTION: This seasoning is such one as to be particularly used for fish and fish processed products, or some kinds of soup needing to enhance their aftertaste, is obtained by emulsifying oils and fats, preferably fish oil or oils and fats containing fish oil together with an extract to oil-in-water type; this seasoning is enhanced in mellowness, aftertaste and deliciousness owing to including oils and fats in gustatory substance(s) (natural products, preferably marine products, more preferably an extract from fish, containing preferably an imidazole compound such as histidine, carnosine, anserine or balenine); this seasoning contains fish oil ≥1 wt.%, preferably ≥10 wt.% in the content of the above-mentioned oils and fats, preferably . 3-based higher unsaturated fatty acids account for ≥10 wt.% of the fatty acids constituting the fish oil and an emulsifier comprising polyglycelol fatty acid ester is used; and the above- mentioned gustatory substance(s) includes deliciousness-based seasoning containing glutamic acid and/or nucleic acid-based seasoning and furthermore containing glutathione.

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CLAIMS

[Claim(s)]
[Claim 1] The seasoning with which it is the seasoning which made the oil-in-water type emulsify fats and oils and extractives, and mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance.
[Claim 2] The seasoning of claim 1 which is fats and oils with which the above-mentioned fats and oils contain fish oil or fish oil.
[Claim 3] The seasoning of claim 2 which is that in which the above-mentioned fats and oils contain 1% of the weight or more of fish oil.
[Claim 4] The seasoning of claim 3 which is that in which the above-mentioned fats and oils contain 10% of the weight or more of fish oil.
[Claim 5] The seasoning of claims 2, 3, or 4 which are what contains omega3 system higher unsaturated fatty acid 10% or more among the fatty acids with which the above-mentioned fish oil constitutes it.
[Claim 6] The seasoning of claims 2, 3, or 4 whose above-mentioned fish oil is purification fish oil.
[Claim 7] Claim 1 for which the emulsifier which consists of polyglyceryl fatty acid ester is used thru/or one seasoning of 6.
[Claim 8] Claim 1 whose above-mentioned gustatory substances are the extractives extracted from the natural product thru/or one seasoning of 7.
[Claim 9] The seasoning of claim 8 with which the above-mentioned extractives contain imidazole compounds, such as a histidine, carnosine, anserine, and balenine.
[Claim 10] Claim 1 which is the taste system seasoning with which the above-mentioned gustatory substance contained glutamic acid and/or a nucleotide flavor thru/or one seasoning of 9.
[Claim 11] The seasoning of claims 8, 9, or 10 with which the above-mentioned gustatory substance contains a glutathione further.
[Claim 12] Claim 8 whose above-mentioned natural product is a marine product thru/or one seasoning of 11.
[Claim 13] The seasoning of claim 12 whose above-mentioned marine products are fishes.
[Claim 14] Claim 1 whose seasoning is for fishes and fishes workpieces thru/or one seasoning of 13.
[Claim 15] The seasoning of claim 14 which a seasoning soaks and is for a fish, roast fish, boiled fish, and/or boiled fish paste.
[Claim 16] Claim 1 which are the soup for which a seasoning needs the increment in aftertaste thru/or one seasoning of 15.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The field of the invention of an industrial place] This invention relates to the oil-in-water type seasoning with which the mellowness characterized by including fats and oils, aftertaste, and a taste were reinforced, and its use.
[0002]
[Description of the Prior Art] As the base of the conventional various dishes, extractives, such as meat extractives, fish-and-shellfishes extractives, and vegetable extractives, are widely used considering business use as a core. The function of these extractives is supposed that food is compensated with lack of the food ingredient which gives the complicated taste and width of face etc. However, the extractives extracted from the natural product among the extractives system seasonings actually used are the part, and other [many of] is the workpieces and substitutes which blended a proteolysis object, various amino acid, etc. The function of these workpieces and a substitute has the fault that taste is simple, as compared with natural extractives.
[0003] next, mellower [considering natural extractives, / have / taste / complexity and substance and] than a workpiece and a substitute — etc. — although there is the advantage, if the description of the further mellowness, the further strength of aftertaste, etc. is given in addition to this, worth of extractives [itself] will improve, and it becomes possible to use for more applications. On the other hand, considering fats and oils, it is said that the food and the seasoning with which fats and oils are contained are delicious. When an example is given, the fish in which fat was, meat, ice cream, a dressing, etc. are applied. These are considered that change of mouthfeel by fats and oils being contained and grant (at the time [Especially] of heating) of peculiar aroma have influenced. For example, the KUKKUDO flavor of hamburger PATI using beef has the report which changes with classes of fat (Japanese ******, 65,142 to 148 reference). Moreover, non-heated fats and oils adhere to food, and it is reported that the smoothness of the opening point by fats and oils is given (oil chemistry, 28 and 724, 1979 reference).
[0004] If fats and oils are independent, while there is a report (fats and oils, 49, 7, 1996) of being near, tasteless about the effect fats and oils affect taste, recent years come and fats and oils are directly made for Seki, then the said report by taste. However, the contents are not uniform by the reporter. That is, in food, a seasoning, etc. with which fats and oils are contained, there are many still unknown parts about what kind of effect fats and oils have had on the taste. Although the taste effectiveness of the fats and oils which ******** and are contained in waste fluid is observed in JP,8-126482,A, it limits to that by which the effectiveness exposed the fats and oils to be used from few things, and was collected from waste fluid in refined oil. JP,10-108641,A — industrial processing of fats and oils, especially fish and shellfishes — although it is in process and the seasoning of a water-in-oil type is proposed paying attention to the effect affect the taste of the fats and oils to derive, it is not thought that the effectiveness about the taste of important fishery fats and oils is completely pulled out from it being necessary to dilute with the lowness of the oxidation stability of fishery fats and oils, therefore extremely stable common vegetable oil and fat.

[0005]
[Problem(s) to be Solved by the Invention] This invention aims at offering the fishery fats-and-oils (especially fish oil) content oil-in-water type seasoning with which the strength of mellowness, aftertaste, and a taste was increased.
[0006]
[Means for Solving the Problem] This inventions are fats and oils, the fats and oils which contain fish oil or fish oil preferably, and the seasoning which made the oil-in-water type emulsify extractives, and make the summary the seasoning with which mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance.
[0007] The above-mentioned fats and oils contain 10% of the weight or more of fish oil preferably 1% of the weight or more, and it is the seasoning with which this invention is the seasoning which made the oil-in-water type emulsify fish oil, or the fats and oils which contain 10% of the weight or more of fish oil preferably 1% of the weight or more and extractives, and mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance in that case. It is the fish oil which contains omega3 system higher unsaturated fatty acid 10% or more 10% or more among the fatty acids with which the above-mentioned fish oil constitutes it among the fatty acids with which this invention constitutes it in that case including omega3 system higher unsaturated fatty acid, or the fats and oils which contain this 10% of the weight or more of fish oil preferably 1% of the weight or more and the seasoning which made the oil-in-water type emulsify extractives, and is the seasoning with which mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance.
[0008] The fish oil used with the seasoning of this invention is purification fish oil preferably. Moreover, in the seasoning of this invention, the emulsifier which consists of polyglyceryl fatty acid ester is used. further — again — the seasoning of this invention — setting — the above-mentioned gustatory substance — a natural product — they are a marine product and the extractives more preferably extracted from fishes preferably. The above-mentioned extractives contain imidazole compounds, such as a histidine, carnosine, anserine, and balenine. Moreover, the above-mentioned gustatory substance is a taste system seasoning containing glutamic acid and/or a nucleotide flavor. The above-mentioned gustatory substance contains a glutathione further. Moreover, a seasoning soaks this invention and it is the fishes a fish, roast fish, boiled fish, for boiled fish paste, etc., and for fishes workpieces. Moreover, this inventions are soup for which a seasoning needs the increment in aftertaste.
[0009]
[Embodiment of the Invention] In order that this invention persons may get the seasoning with which the strength of mellowness, aftertaste, and a taste was increased, as a result of repeating various examination, the seasoning which made the oil-in-water type emulsify specific fats and oils and extractives found out having the strength of high mellowness, aftertaste, and a taste. In addition, the sharp tastes, such as an acid taste and bitterness, are stopped and the taste which wears ****** is expressed as the "mellowness" told to this invention.
[0010] That in which the above-mentioned fats and oils contain 120 or more fats and oils especially fish oil, or fish oil preferably the 80 or more iodine numbers, What contains 10% of the weight or more of fish oil more preferably 1% of the weight or more, Especially fish oil is purification fish oil or a tuna oil, a bonito oil, and/or sardine oil. The above-mentioned fish oil is what contains omega3 system higher unsaturated fatty acid 10% or more among the fatty acids which constitute it. The desirable mode of this invention It is the seasoning which made the oil-in-water type emulsify fats and oils and extractives, and fats and oils are included in a gustatory substance, That in which the fats and oils contain 120 or more fats and oils especially fish oil, or fish oil preferably the 80 or more iodine numbers, What contains 10% of the weight or more of fish oil more preferably 1% of the weight or more, Especially fish oil is purification fish oil or a tuna oil, a bonito oil, and/or sardine oil, and it is the seasoning with which mellowness, aftertaste, and a taste were reinforced because it is what contains omega3 system higher unsaturated fatty acid 10% or more among the fatty acids with which the above-mentioned fish oil constitutes it.
[0011] The above-mentioned emulsifier consists of polyglyceryl fatty acid ester, and the desirable mode of this invention is the seasoning which made the oil-in-water type emulsify fats

and oils and extractives, and is the seasoning with which mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance, using polyglyceryl fatty acid ester as an emulsifier.

[0012] the above-mentioned gustatory substance — a natural product, especially a marine product — desirable — fishes — concrete — salmons — The extractives extracted from bonitos and/or tunas, especially carnosine, They are the extractives containing anserine and an imidazole dipeptide called balenine. The desirable mode of this invention It is the seasoning which made the oil-in-water type emulsify fats and oils and extractives, and fats and oils are included in a gustatory substance, the gustatory substance — a natural product, especially a marine product — desirable — fishes — concrete — salmons — It is the seasoning with which mellowness, aftertaste, and a taste were reinforced because they are the extractives containing the extractives extracted from bonitos and/or tunas especially carnosine, anserine, and an imidazole dipeptide called balenine.

[0013] The above-mentioned gustatory substance is a taste system seasoning containing glutamic acid and/or a nucleotide flavor, and it is the seasoning with which this invention made the oil-in-water type emulsify fats and oils and extractives in that case including a glutathione further preferably, fats and oils' being included in a gustatory substance and its gustatory substance are the taste system seasonings containing glutamic acid and/or a nucleotide flavor, and it is the seasoning with which mellowness, aftertaste, and a taste were reinforced by a glutathione being included further preferably. The Quoc taste enhancing effect of a glutathione is reinforced that in which the gustatory substance contained amino acid and a proteolysis object, and by including a glutathione in these extractives further.

[0014] a seasoning — fishes and the object for fishes workpieces — desirable — roast fish, boiled fish, and/or the object for boiled fish paste — It was called still more preferably the Nishikyo ****, fish preserved in miso, ********, mirin ****, and sake lees pickles, soaks, and is for fish. In that case this invention By being the seasoning which made the oil-in-water type emulsify fats and oils and extractives, and fats and oils being included in a gustatory substance, mellowness, the fishes by which aftertaste and a taste were reinforced, and the object for fishes workpieces — desirable — roast fish, boiled fish, and/or the object for boiled fish paste — it was called still more preferably the Nishikyo ****, fish preserved in miso, ********, mirin ****, and sake lees pickles — it soaks and is a seasoning for fish. Moreover, it is the seasoning which is added by the soup for which a seasoning needs the increment in aftertaste especially the rahmen soup of which substance is required, the soup of the Chinese style, etc., and is added in that case by the soup which this invention is the seasoning which made the oil-in-water type emulsify fats and oils and extractives, and need the increment in the aftertaste by which mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance.

[0015] Although the class of fats and oils made into an object by this invention is not asked, the fish oil with which it is rich in the higher unsaturated fatty acid of omega3 system 120 or more 80 or more when the iodine number looks at the enhancing effect of aftertaste and a taste especially preferably is the most desirable. This is considered because the effectiveness over taste changes with classes of fatty acid which forms fats and oils. Moreover, although whenever [fats and oils purification-] is not asked, it will be satisfactory if it is the level currently refined as food-grade fats and oils marketed. As an amount of fats and oils in a seasoning, it is 5% or more preferably 1% or more. The effect to taste becomes clearer by increasing the amount of fats and oils. When the amount of fats and oils is less than 1%, although based also on the class of fats and oils, the effectiveness over taste is hard to be acquired.

[0016] In order to circulate considering this invention as a seasoning, fats and oils and extractives must be uniform. Therefore, it is required to emulsify fats and oils and extractives to homogeneity at an oil-in-water type or a water-in-oil type. Although what kind of thing is sufficient as the emulsification gestalt which will be used if it becomes as it is made homogeneity, an emulsifier, and the emulsification approach as long as fats and oils and extractives become homogeneity, fish oil needs to take a very unstable thing into consideration to oxidation here. That is, it is desirable that they are an oil-in-water type emulsification object

from the field of oxidation stability, especially the oil-in-water type emulsification object using polyglyceryl fatty acid ester as an emulsifier.

[0017] The extractives used for this invention are desirable from the effectiveness that the thing containing the thing extracted from the natural product especially carnosine, anserine, and an imidazole dipeptide called balenine controls oxidation of fats and oils. Moreover, since the effectiveness to the taste according [what was extracted from the marine product] to addition of fats and oils is large, it is desirable. Among marine products, since salmons, a bonito, and tunas contain the above-mentioned peptide in abundance, they are the most desirable. Although there are various the extract approaches of extractives, what kind of approach may be used. But although a hot water extract is common, there is an ethanol extract, an acid, or the other approach of carrying out an alkali extract and neutralizing. Although the condensed liquefied extractives are common after an extract, according to this invention, fats and oils can be further added in the liquefied extractives, and it can also use by spray drying etc. with disintegration and the gestalt which corned. Other extractives may be blended in liquefied extractives, or what added other seasonings may be used for them.

[0018] Thus, compared with the time of tasting the seasoning which emulsified fats and oils and extractives and was obtained with an extractives simple substance, an acid taste decreases without the strength of taste changing, sweet taste increases, i.e., it is sensed easy that mellowness is increasing and that the point taste decreases and aftertaste and a taste are increasing. The seasoning used for this invention is desirable from the effectiveness over the taste of amino acid system seasonings, such as HAP, HVP, and a yeast extract, and the fats and oils of reinforcing to it the aftertaste on which the glutamic acid which is the taste matter, and the object which added the nucleic acid related compound (IMP, GMP, AMP) reinforce a taste. Moreover, the object with which the glutathione which is the Quoc taste enhancement matter was added by the above-mentioned seasoning is the most desirable by the synergistic effect with a glutathione. In the seasoning which made the oil-in-water type emulsify the liquid containing fats and oils, extractives, or a seasoning, it becomes the seasoning with which mellowness, aftertaste, and a taste were reinforced by fats and oils being included in a gustatory substance.

[0019] Although mellowness, aftertaste, and a taste become stronger by using this seasoning for food, as food with which effectiveness shows up notably, a roast fish and fishes [soak and] workpiece, such as a fish, boiled fish, and boiled fish paste, is raised. The effectiveness is large, when [which used ** with few fats-and-oils contents, the Spanish mackerel, the Buna salmon, the horse mackerel, etc. for the raw material fish originally especially] it soaks, a fish soaks and it adds to the floor.

[0020]

[Function] By considering as the seasoning which emulsified fats and oils and extractives, the balance of aftertaste, a taste, and the point taste serves as a seasoning with the weak point taste, and strong aftertaste and a strong taste whose sweet taste whose acid taste decreases and is increasing. By using the seasoning, the fishery boiled fish paste with which taste is extended (it is strong and continues) can be manufactured. Fish oil (tuna oil) reinforces mellowness and not only aftertaste but a taste specifically as compared with other fats and oils. When the taste matter (glutamic acid, nucleotide flavor) is included as a gustatory substance, the effectiveness of fish oil (tuna oil) increases in multiplication. It is thought that the enhancing effect of a taste is EPA and DHA which are contained in fish oil.

[0021]

[Example] An example explains the detail of this invention. The invention in this application is not limited at all by these examples.

[0022] 0.5g of emulsifiers was added to extractives (ex.100ml / 100g of fish meat) 90g which carried out the water extract from fatty tuna among the example 1 refrigeration big-eyed tuna, 10g of tuna oils was added further, mixed churning was carried out for 30 seconds by the De Dis parser, and the seasoning was obtained.

[0023] 0.5g of emulsifiers was added to extractives 70g prepared in the example 2 example 1, 30g of tuna oils was added further, mixed churning was carried out for 30 seconds by the De Dis

parser, and the seasoning was obtained.
[0024] 0.5g of emulsifiers was added to extractives 90g prepared in the example of comparison 1 example 1, 10g of soybean oil was added further, mixed churning was carried out for 30 seconds by the De Dis parser, and the seasoning was obtained.
[0025] 0.5g of emulsifiers was added to extractives 90g prepared in the example of comparison 2 example 1, 10g of lard was added further, mixed churning was carried out for 30 seconds by the De Dis parser, and the seasoning was obtained.
[0026] 2% of the weight of polyglyceryl fatty acid ester was dissolved in the commercial concentration bonito extractives adjusted to example 3BRIX40 as an emulsifier, and the aqueous phase was obtained. The tuna oil used in the example 1 of this aqueous phase and same weight was added, it emulsified to homogeneity in the homomixer, and tuna oil addition extractives were obtained. These tuna oil addition extractives were added to the Nishikyo ********** by the following combination, and the fillet of a Spanish mackerel was soaked in this and it soaked in it for bottom two days of lump refrigeration. In addition, it soaked and advantage was taken in the sliced Spanish mackerel of the same weight per 1kg of floors. Seasoning of the front face of the soaked Spanish mackerel was wiped, and organic-functions evaluation was presented after baking. In addition, the Spanish mackerel which carried out equivalent addition of the bonito extractives as a comparison and which is soaked (a tuna oil is not included) and soaked to the floor was calcinated similarly, and organic-functions evaluation was presented.
Nishikyo ********** presentation white miso 50% mirin 30% tuna oil addition bonito extractives 20% [0027] example 4 marketing roast meat — ** — it was alike, 10% of tuna oil which came out of comparatively and which was used in the example 1 was added, it mixed and emulsified to homogeneity in ROBOKUPU, and tuna oil addition **** was obtained. this tuna oil -- addition — it was alike, cow internal organs (intestines; hormone) were soaked, and it saved for bottom ten days of lump refrigeration. Organic-functions evaluation was presented with the soaked internal organs as broiled pig innards after baking. In addition, the internal organs which hang down as a comparison and were soaked with the chisel (a tuna oil is not included) were calcinated similarly, and organic-functions evaluation was presented.
[0028] 0.5g of emulsifiers was added to extractives 100g prepared in the example of comparison 3 example 1, and mixed churning was carried out for 30 seconds by the De Dis parser.
[0029] Organic-functions evaluation was performed about the seasoning obtained in example 5 examples 1-2 and the examples 1-3 of a comparison. The result was shown in Table 1. Organic-functions evaluation was carried out by nine skilled panels. It is made to answer that the taste of 100 in all, and sweet taste, saline-taste, acid taste, bitterness, and taste - and others is set to 100 in all by the point taste and aftertaste. In the strength of aftertaste, the result of the strength of the strength of sweet taste and an acid taste was extracted in the table, and it was shown in it. Furthermore, mellowness was also shown in accordance with Table 1.
[0030]
[Table 1]
---------- strength of aftertaste Strength of sweet taste Strength of an acid taste Mellowness ---------- example 1 58 22 32 O ---------- ---------- example 2 58 30 24 O ---------- Example 1 of comparison 48 26 28** ---------- Example 2 of comparison 48 21 34** ---------- Example 3 of a comparison 30 7 49 x ---------- ---------- [0031] Aftertaste is stronger than the examples 1-3 of a comparison, and, as for examples 1 and 2, each is understood that the increment and the acid taste are decreasing [sweet taste]. The example 2 had remarkable effectiveness especially. Moreover, mellowness was a result with examples 1 and 2 better than the examples 1-3 of a comparison, and especially the example 2 was a notably good result. When the panel was made to carry out free description about the description of the seasoning in an example 1 and an example 2 furthermore, the expression with it was seen. ["good / the balance of the taste /", "a feeling of extractives is strong and excellent in a quality target"]
[0032] Organic-functions evaluation was carried out about Spanish mackerel Nishikyo **** obtained in the example 6 example 3. The result was as follows. Compared with a bonito

extractives independent, the thing using tuna oil addition extractives was intentionally identified by the three-point identifying method, and was texture with them. [a taste, strong and aftertaste and] [soft]

[0033] The organic-functions evaluation result was carried out about the broiled pig innards obtained in the example 7 example 4. The result was as follows. The thing using tuna oil addition **** hung down, was compared independently, was intentionally identified by the three-point identifying method, and was texture with them. [sweet taste, aftertaste, a strong and taste, and] [soft] Moreover, evaluation that the tuna oil addition **** was mellower as a free opinion of a panel was obtained.

[0034] In addition, it emulsified by the De Dis parser so that each fats-and-oils content might become the water solution (0.5% content of emulsifiers) of the typical compound which has five basic tastes, such as example 8 sweet taste, a saline taste, an acid taste, bitterness, and a taste, with 10%. The result of having expressed the strength of each primary taste of fats-and-oils a non-added water solution, and a fats-and-oils addition emulsification object using Indow's and others tau scale was described in drawing 1 . In the leucine and quinine fulfate in which the lactic acid in which an acid taste is shown, a histidine lactate, and bitterness are shown, glutamic-acid Na (MSG) which shows a taste, and inosinic acid Na(IMP)+MSG, the difference arising from a fats-and-oils kind was checked with the significant difference of 5% of level of significance as a result of analysis of variance. setting the tuna oil especially to MSG and IMP+MSG which show a taste, soybean oil and corn oil fell or (MSG) maintained the reinforcement of a taste -- it was (IMP+MSG) -- the taste was maintained and (MSG) reinforced to the thing (IMP+MSG).

[0035] The tuna oil was added 10% in the example 9 proteolysis object water solution (BRIX45, 0.5% of emulsifiers) HAP, and by the De Dis parser during 30 seconds, churning mixing was carried out and it emulsified. Moreover, water-solution HAP+GSH which added the reduced glutathione of a reagent to addition hydrolyzate 0.2%, and was dissolved was prepared, and it emulsified similarly. The ranking method of -4-+4 points estimated each sample when making evaluation of the sample HAP of the example of a comparison into zero point using 15 often trained organoleptic-test panels. The result is shown in Table 3. Compared with the non-added water solution, as for the emulsification object which added the tuna oil, aftertaste, sweet taste, and a taste became strong.

[0036]

[Table 2]

	後味	甘味	うま味
蛋白加水分解物(HAP)	0	0	0
HAP+マグロ油	2	2	2
HAP+GSH	1	0	1
HAP+GSH+マグロ油	3～4	2	3～4

[0037]

[Effect of the Invention] The balance of the aftertaste and the point taste with a strong taste can offer the seasoning with the weak point taste and strong aftertaste whose sweet taste whose acid taste decreases and is increasing. For example, the seasoning with which the mellowness which can manufacture the fishery boiled fish paste with which taste is extended (it is strong and continues), aftertaste, and a taste were reinforced can be offered. the fishes and the fishes workpiece with which aftertaste and a taste were reinforced using the seasoning of this invention -- concrete -- roast fish, boiled fish, and/or boiled fish paste -- it was more specifically called the Nishikyo ****, fish preserved in miso, ********, mirin ****, and sake lees pickles -- it can soak and a fish can be offered.

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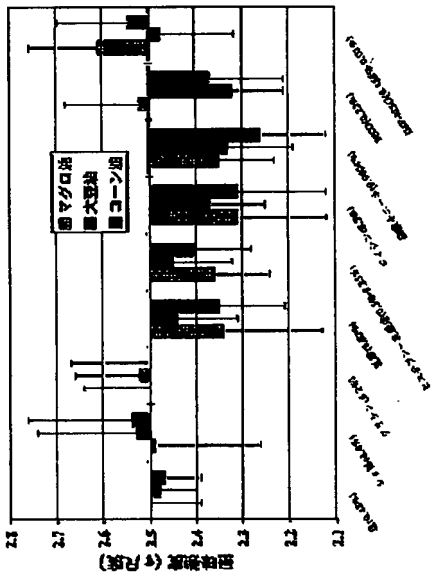
(54)【発明の名称】　まろやかさ、後味、うま味が増強された調味料

(57)【要約】
【課題】　まろやかさ、後味、うま味の強さが増加された水産油脂（特に魚油）含有水中油型調味料の提供。
【解決手段】　油脂、好ましくは魚油または魚油を含有する油脂とエキスを水中油型に乳化させた調味料であって、呈味物質（天然物、好ましくは水産物、より好ましくは魚類より抽出されたエキス。好ましくはヒスチジン、カルノシン、アンセリン、バレニンといったイミダゾール化合物を含む。）に油脂を含むことでまろやかさ、後味、うま味が増強された調味料、特に魚類及び魚類加工品用、後味の増加を必要とするスープ類用のもの。上記の油脂が１重量%以上、好ましくは１０重量%以上の魚油、好ましくはそれを構成する脂肪酸のうちω３系高度不飽和脂肪酸を１０%以上含むものである。ポリグリセリン脂肪酸エステルからなる乳化剤が用いられている。上記の呈味物質はグルタミン酸および／または核酸系調味料を含んだうま味系調味料、さらにグルタチオンを含んだものである。



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【特許請求の範囲】

【請求項１】　油脂とエキスを水中油型に乳化させた調味料であって．呈味物質に油脂を含むことでまろやかさ．後味、うま味が増強された調味料。

【請求項２】　上記の油脂が魚油または魚油を含有する油脂である請求項１の調味料。

【請求項３】　上記の油脂が１重量%以上の魚油を含有するものである請求項２の調味料。

【請求項４】　上記の油脂が１０重量%以上の魚油を含有するものである請求項３の調味料。

【請求項５】　上記の魚油がそれを構成する脂肪酸のうちω３系高度不飽和脂肪酸を１０%以上含むものである請求項２、３または４の調味料。

【請求項６】　上記の魚油が精製魚油である請求項２、３または４の調味料。

【請求項７】　ポリグリセリン脂肪酸エステルからなる乳化剤が用いられている請求項１ないし６のいずれかの調味料。

【請求項８】　上記の呈味物質が天然物より抽出されたエキスである請求項１ないし７のいずれかの調味料。

【請求項９】　上記のエキスがヒスチジン、カルノシン．アンセリン．バレニンといったイミダゾール化合物を含んでいる請求項８の調味料。

【請求項１０】　上記の呈味物質がグルタミン酸および／または核酸系調味料を含んだうま味系調味料である請求項１ないし９のいずれかの調味料。

【請求項１１】　上記の呈味物質が．さらにグルタチオンを含んだものである請求項８、９または１０の調味料。

【請求項１２】　上記の天然物が水産物である請求項８ないし１１のいずれかの調味料。

【請求項１３】　上記の水産物が魚類である請求項１２の調味料。

【請求項１４】　調味料が魚類及び魚類加工品用のものである請求項１ないし１３のいずれかの調味料。

【請求項１５】　調味料が漬け魚、焼き魚、煮魚および／または練り製品用のものである請求項１４の調味料。

【請求項１６】　調味料が後味の増加を必要とするスープ類である請求項１ないし１５のいずれかの調味料。

【発明の詳細な説明】

【０００１】

【産業場の利用分野】本発明は油脂を含むことを特徴とするまろやかさ．後味、うま味が増強された水中油型調味料およびその利用に関する。

【０００２】

【従来の技術】従来各種料理のベースとして、畜肉エキス．魚介類エキス、野菜エキス等のエキスが業務用を中心として広く用いられている。これらのエキスの機能は．食品に複雑な味と幅を与える、食品材料の不足を補うなどとされている。しかし、実際に使用されるエキス

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系調味料のうち．天然物から抽出されたエキスはその一部分であり、その他の多くは蛋白分解物や各種アミノ酸などを配合した加工品および代替品である。これらの加工品および代替品の機能は．天然エキスと比較してみると呈味が単純であるという欠点を有している。

【０００３】次に天然エキスについて考えると．加工品や代替品よりも呈味が複雑．コクがあってまろやかである等の長所があるものの．これに加えてさらなるまろやかさや後味の強さ等の特徴を与えればエキスそのものの価値が向上し．より多くの用途に利用することが可能となる。一方、油脂について考えると．油脂が含まれている食品や調味料はおいしいと言われる。例を挙げると、脂がのった魚や肉類、アイスクリーム．ドレッシングなどが当てはまる。これらは油脂が含まれることによる食感の変化、独特の香気の付与（特に加熱時）が影響していると考えられている。例えば牛肉を用いたハンバーガーパティのクックドフレーバーは、脂肪の種類によって異なる（日音会報、６５．１４２－１４８参照）との報告がある。また未加熱の油脂は食品に付着し、油脂による口触りの滑らかさを与える（油化学．２８、７２４、１９７９参照）と報告されている。

【０００４】油脂が呈味に及ぼす影響に関しては．油脂は単独では無味に近いという報告（油脂，４９．７，１９９６）がある一方、近年になって油脂が直接的に呈味に関するといった報告がなされている。しかしながら、その内容は報告者によって一様ではない。すなわち、油脂が含まれる食品、調味料などにおいて、油脂が味にどのような影響を与えているのか、未だに不明な部分が多い。特開平８－１２６４８２ではすり身晒し廃液に含まれる油脂の呈味効果に注目しているが．精製油ではその効果が少ないことから、使用する油脂を晒し廃液から回収されたものに限定している。特開平１０－１０８６４１では油脂、特に魚介類の生産加工工程中で派生する油脂の呈味に及ぼす影響に着目し、油中水型の調味料を提案しているが．水産油脂の酸化安定性の低さ故に．安定性の高い一般の植物油脂で希釈する必要があることから．肝心の水産油脂の呈味に関する効果を充全に引き出しているとは考えられない。

【０００５】

【発明が解決しようとする課題】本発明はまろやかさ、後味．うま味の強さが増加された水産油脂（特に魚油）含有水中油型調味料を提供することを目的とする。

【０００６】

【課題を解決するための手段】本発明は、油脂．好ましくは魚油または魚油を含有する油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むことでまろやかさ．後味、うま味が増強された調味料を要旨としている。

【０００７】上記の油脂が１重量%以上、好ましくは１０重量%以上の魚油を含有するものであり、その場合、

本発明は、魚油または１重量%以上、好ましくは１０重量%以上の魚油を含有する油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むことでまろやかさ、後味、うま味が増強された調味料である。上記の魚油がそれを構成する脂肪酸のうちω３系高度不飽和脂肪酸を１０%以上含むものであり、その場合、本発明は、それを構成する脂肪酸のうちω３系高度不飽和脂肪酸を１０%以上含む魚油、または１重量%以上、好ましくは１０重量%以上の該魚油を含有する油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むことでまろやかさ、後味、うま味が増強された調味料である。

【０００８】本発明の調味料で用いる魚油は好ましくは精製魚油である。また、本発明の調味料においては、ポリグリセリン脂肪酸エステルからなる乳化剤が用いられている。さらにまた、本発明の調味料においては、上記の呈味物質が天然物、好ましくは水産物、より好ましくは魚類より抽出されたエキスである。上記のエキスはヒスチジン、カルノシン、アンセリン、バレニンといったイミダゾール化合物を含むものである。また、上記の呈味物質はグルタミン酸および／または核酸系調味料を含んだうま味系調味料である。上記の呈味物質は、さらにグルタチオンを含んだものである。また、本発明は調味料が漬け魚、焼き魚、煮魚および／または練り製品用などの魚類及び魚類加工品用のものである。また、本発明は調味料が後味の増加を必要とするスープ類である。

【０００９】

【発明の実施の形態】本発明者らは、まろやかさ、後味、うま味の強さが増加された調味料を得るために種々の検討を重ねた結果、特定の油脂とエキスを水中油型に乳化させた調味料が高いまろやかさ、後味、うま味の強さを有することを見いだした。なお、本発明に言う「まろやかさ」とは酸味や苦味などの尖った味が抑えられ、まるみを帯びている味を表現している。

【００１０】上記の油脂がヨウ素価８０以上、好ましくは１２０以上の油脂、特に魚油または魚油を含有するもの、好ましくは１重量%以上、より好ましくは１０重量%以上の魚油を含有するもの、特に魚油が精製魚油、あるいはマグロ油、カツオ油および／またはイワシ油であり、上記の魚油がそれを構成する脂肪酸のうちω３系高度不飽和脂肪酸を１０%以上含むものであり、本発明の好ましい態様は、油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むこと、その油脂がヨウ素価８０以上、好ましくは１２０以上の油脂、特に魚油または魚油を含有するもの、好ましくは１重量%以上、より好ましくは１０重量%以上の魚油を含有するもの、特に魚油が精製魚油、あるいはマグロ油、カツオ油および／またはイワシ油であり、上記の魚油がそれを構成する脂肪酸のうちω３系高度不飽和脂肪酸を１０%以上含むものであることでまろやかさ、後味、うま味が増強された調味料である。

【００１１】上記の乳化剤がポリグリセリン脂肪酸エステルからなり、本発明の好ましい態様は、油脂とエキスを水中油型に乳化させた調味料であって、乳化剤としてポリグリセリン脂肪酸エステルを用い、呈味物質に油脂を含むことでまろやかさ、後味、うま味が増強された調味料である。

【００１２】上記の呈味物質が天然物、特に水産物、好ましくは魚類、具体的にはサケ類、カツオ類および／またはマグロ類より抽出されたエキス、特にカルノシン、アンセリン、バレニンといったイミダゾールジペプチドを含んでいるエキスであり、本発明の好ましい態様は、油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むこと、その呈味物質が天然物、特に水産物、好ましくは魚類、具体的にはサケ類、カツオ類および／またはマグロ類より抽出されたエキス、特にカルノシン、アンセリン、バレニンといったイミダゾールジペプチドを含んでいるエキスであることでまろやかさ、後味、うま味が増強された調味料である。

【００１３】上記の呈味物質がグルタミン酸および／または核酸系調味料を含んだうま味系調味料であり、好ましくはさらにグルタチオンを含んだものであり、その場合、本発明は、油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むこと、その呈味物質がグルタミン酸および／または核酸系調味料を含んだうま味系調味料であり、好ましくはさらにグルタチオンを含んだものであることでまろやかさ、後味、うま味が増強された調味料である。呈味物質がアミノ酸、蛋白加水分解物を含んだもの、さらにこれらのエキスにグルタチオンを含むことにより、グルタチオンのコク味増強効果が増強される。

【００１４】調味料が魚類及び魚類加工品用、好ましくは焼き魚、煮魚および／または練り製品用、さらに好ましくは西京漬け、味噌漬け、醤油漬け、味醂漬け、粕漬けといった漬け魚用のものであり、その場合、本発明は、油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むことでまろやかさ、後味、うま味が増強された魚類及び魚類加工品用、好ましくは焼き魚、煮魚および／または練り製品用、さらに好ましくは西京漬け、味噌漬け、醤油漬け、味醂漬け、粕漬けといった漬け魚用調味料である。また、調味料が後味の増加を必要とするスープ類、特にコクを要求されるラーメンスープや中華風スープ等に添加されるものであり、その場合、本発明は、油脂とエキスを水中油型に乳化させた調味料であって、呈味物質に油脂を含むことでまろやかさ、後味、うま味が増強された後味の増加を必要とするスープ類に添加される調味料である。

【００１５】本発明で対象にする油脂の種類は問わないが、ヨウ素価が８０以上、好ましくは１２０以上、特に後味、うま味の増強効果を見るとω３系の高度不飽和脂

肪酸に富む魚油が最も望ましい。このことは油脂を形成している脂肪酸の組成によって旨味に対する効果が異なってくるためと考えられる。また油脂の精製度は問わないが、市販されている食品用油脂として精製されているレベルであれば問題がない。調味料中の油脂量としては１％以上、好ましくは５％以上である。油脂量を増やすことで旨味に対する影響がより明らかとなる。油脂量が１％未満の場合、油脂の種類にもよるが旨味に対する効果が得られにくい。

【００１６】本発明を調味料として流通するためには、油脂とエキスが均一でなければならない。したがって油脂とエキスを均一に水中油型もしくは油中水型に乳化することが必要である。均一にするだけならば使用する乳化形態、乳化剤、および乳化方法は油脂とエキスが均一になればどのようなものでもかまわないが、ここで魚油は酸化に対して非常に不安定であることを考慮する必要がある。すなわち、酸化安定性の面から、水中油型乳化物、特に乳化剤としてポリグリセリン脂肪酸エステルを用いた水中油型乳化物であることが望ましい。

【００１７】本発明に使用されるエキスは、天然物から抽出されたもの、特にカルノシン、アンセリン、バレニンといったイミダゾールジペプチドを含んでいるものが油脂の酸化を抑制するといった効果から、好ましい。また、水産物から抽出されたものが油脂の添加による味への効果が大きいため好ましい。水産物のうち、サケ類、カツオ、マグロ類は上記ペプチドを豊富に含んでいるため、最も好ましい。エキスの抽出方法は種々あるが、どのような方法を用いてもかまわない。もっとも一般的なのは熱水抽出であるが、他にもエタノール抽出、酸またはアルカリ抽出して中和する方法などがある。抽出後、濃縮した液状エキスが一般的であるが、さらにその液状エキスに本発明に従い、油脂を添加して、噴霧乾燥等により粉末化、造粒した形態で用いることもできる。液状エキスに他のエキスをブレンドしたり、他の調味料を添加したものを用いても構わない。

【００１８】このようにして油脂とエキスを乳化して得られた調味料は、エキス単体で味わったときとくらべて、呈味の強さは変わらずに酸味が減少し、甘味が増加するすなわちまろやかさが増加していること、また先味が減少して後味、うま味が増加していることが容易に感じられる。本発明に使用される調味料はＨＡＰ、ＨＶＰ、酵母エキスといったアミノ酸系調味料や、それにうま味物質であるグルタミン酸、核酸関連物質（ＩＭＰ、ＧＭＰ、ＡＭＰ）を添加した物が、うま味を増強する、後味を増強するといった油脂の旨味に対する効果から、好ましい。また、上記の調味料にコク味増強物質であるグルタチオンが添加された物はグルタチオンとの相乗効果により最も好ましい。油脂とエキス、または調味料を含む液を水中油型に乳化させた調味料において、呈味物質に油脂を含むことでまろやかさ、後味、うま味が増強された調味料となる。

【００１９】本調味料を食品に使用することにより、まろやかさ、後味、うま味がより強くなるが、効果が顕著に現れる食品としては焼き魚、漬け魚、煮魚、練り製品といった魚類加工品があげられる。特に元来油脂含量の少ないたら類、サワラ、ブナサケ、アジ等を原料魚に使用した漬け魚の漬け床に添加した場合にその効果は大きい。

【００２０】

【作用】油脂とエキスを乳化した調味料とすることで、後味、うま味と先味のバランスが先味が弱く後味、うま味が強い、酸味が減って甘味が増えている調味料となる。その調味料を用いることで、旨味ののびる（強くて持続する）水産練り製品を製造することができる。魚油（マグロ油）は他の油脂と比較してまろやかさと後味だけでなく、うま味も特異的に増強する。旨味物質としてうま味物質（グルタミン酸、核酸系調味料）を含む場合、魚油（マグロ油）の効果は相乗的に増加する。うま味の増強効果は魚油に含まれるＥＰＡ、ＤＨＡであると思われる。

【００２１】

【実施例】本発明の詳細を実施例で説明する。本願発明はこれら実施例によって何ら限定されるものではない。

【００２２】実施例１

冷凍メバチマグロ中トロから水抽出したエキス（ｅｘ．１００ｍｌ／魚肉１００ｇ）９０ｇに乳化剤０．５ｇを加え、さらにマグロ油１０ｇを加えてディスパーサーにて３０秒間混合撹拌し、調味料を得た。

【００２３】実施例２

実施例１で調製されたエキス７０ｇに乳化剤０．５ｇを加え、さらにマグロ油３０ｇを加えてディスパーサーにて３０秒間混合撹拌し、調味料を得た。

【００２４】比較例１

実施例１で調製されたエキス９０ｇに乳化剤０．５ｇを加え、さらに大豆油１０ｇを加えてディスパーサーにて３０秒間混合撹拌し、調味料を得た。

【００２５】比較例２

実施例１で調製されたエキス９０ｇに乳化剤０．５ｇを加え、さらに豚脂１０ｇを加えてディスパーサーにて３０秒間混合撹拌し、調味料を得た。

【００２６】実施例３

ＢＲＩＸ４０に調整した市販濃縮カツオエキスに乳化剤として２重量％のポリグリセリン脂肪酸エステルを溶解し、水相を得た。この水相と等重量の実施例１で使用したマグロ油を加えホモミキサーにて均一に乳化し、マグロ油添加エキスを得た。このマグロ油添加エキスを以下の配合で西京漬け用漬け床に加え、これにサワラの切身を漬け込み冷蔵下２日間漬けた。なお、漬け床１ｋｇにつき、等重量のサワラの切り身をつけ込んだ。漬け込んだサワラの表面の調味を拭い、焼成後、官能評価に供し

た。なお、比較としてカツオエキスを等量添加した（マグロ油を含まない）漬け床にて漬け込まれたサワラを同様に焼成し、官能評価に供した。

西京漬け用漬け床組成

白味噌	５０％
みりん	３０％
マグロ油添加カツオエキス	２０％

【００２７】実施例４

市販焼き肉用たれに１０％の割合で実施例１で使用したマグロ油を加え、ロボクープにて均一に混合、乳化し、マグロ油添加たれを得た。このマグロ油添加たれに、牛内臓（腸；ホルモン）を漬け込み冷蔵下１０日間保存した。漬け込んだ内臓を、焼成後、ホルモン焼きとして官能評価に供した。なお、比較としてたれのみ（マグロ油を含まない）で漬け込まれた内臓を同様に焼成し、官能＊

＊評価に供した。

【００２８】比較例３

実施例１で調製されたエキス１００ｇに乳化剤０．５ｇを加え、ディスパーサーにて３０秒間混合撹拌した。

【００２９】実施例５

実施例１～２．比較例１～３で得られた調味料について官能評価を行った。その結果を表１に示した。官能評価は熟練したパネル９名にて実施した。先味・後味を合わせて１００、甘味・塩味・酸味・苦味・旨味・その他の味を合わせて１００となるよう回答させたものである。表には後味の強さ、甘味の強さ、および酸味の強さの結果を抜粋して示した。さらにまろやかさについても表１にあわせて示した。

【００３０】

【表１】

	後味の強さ	甘味の強さ	酸味の強さ	まろやかさ
実施例１	５８	２２	３２	○
実施例２	５８	３０	２４	◎
比較例１	４８	２６	２８	△
比較例２	４８	２１	３４	△
比較例３	３０	７	４９	×

【００３１】実施例１、２はいずれも比較例１～３よりも後味が強く、甘味が増加、酸味が減少していることがわかる。なかでも実施例２は効果が著しかった。また、まろやかさは実施例１、２は比較例１～３よりも良好な結果であり、特に実施例２が顕著に良い結果であった。さらに実施例１、実施例２における調味料の特徴についてパネルに自由記述させたところ「味のバランスがよい」「エキス感が強く、品質的に優れている」等の表現が見られた。

【００３２】実施例６

実施例３で得られたサワラ西京漬けについて官能評価を実施した。結果は、以下のとおりであった。マグロ油添加エキスを用いたものはカツオエキス単独に比べ、３点識別法により有意に識別され、うま味、後味が強く、かつ軟らかい肉質であった。

【００３３】実施例７

実施例４で得られたホルモン焼きについて官能評価結果を実施した。結果は、以下のとおりであった。マグロ油添加たれを用いたものはたれ単独に比べ、３点識別法により有意に識別され、甘み、後味、うま味が強く、かつ軟らかい肉質であった。また、パネルの自由意見としてマグロ油添加たれの方がまろやかであるとの評価が得られた。

【００３４】実施例８

甘味、塩味、酸味、苦味、うま味といった基本５味を有する代表的な化合物の水溶液（乳化剤０．５％含有）に各油脂含量が１０％となるように加え、ディスパーサーにて乳化した。油脂未添加水溶液と油脂添加乳化物のそれぞれの基本味の強さをIndowらのｔスケールを用いて表した結果を図１に記した。分散分析の結果、酸味を示す乳酸、ヒスチジン乳酸塩、苦みを示すロイシン、硫酸キニーネ、うま味を示すグルタミン酸Ｎａ（ＭＳＧ）、イノシン酸Ｎａ（ＩＭＰ）＋ＭＳＧにおいて油脂種による違いが危険率５％の有意差を持って確認された。中でもマグロ油はうま味を示すＭＳＧ，ＩＭＰ＋ＭＳＧにおいて大豆油、コーン油はうま味の強度を低下（ＭＳＧ）、又は維持した（ＩＭＰ＋ＭＳＧ）に過ぎなかったのに対し、うま味を維持（ＭＳＧ）、増強（ＩＭＰ＋ＭＳＧ）した。

【００３５】実施例９

蛋白加水分解物水溶液（ＢＲＩＸ４５．乳化剤０．５％）ＨＡＰに１０％マグロ油を添加し、３０秒間ディス

バーサーにて撹拌混合し乳化した。また、添加加水分解物に０．２％試薬の還元型グルタチオンを加え、溶解した水溶液ＨＡＰ＋ＧＳＨを調製し、同様に乳化した。よく訓練された官能検査パネル１５名を用い、比較例のサンプルＨＡＰの評価を０点とした時の各サンプルを－４＊～＋４点の順位法により評価した。その結果を表３に示す。マグロ油を添加した乳化物は未添加水溶液に比べ後味、甘味、うま味が強まった。

【００３６】

【表２】

	後味	甘味	うま味
蛋白加水分解物(HAP)	0	0	0
HAP＋マグロ油	2	2	2
HAP＋GSH	1	0	1
HAP＋GSH＋マグロ油	3～4	2	3～4

【００３７】

【発明の効果】うま味が強い、後味と先味のバランスが先味が弱く後味が強い、酸味が減って甘味が増えている調味料を提供することができる。例えば、旨味ののびる（強くて持続する）水産練り製品を製造できるまろやかさ、後味、うま味が増強された調味料を提供することができる。本発明の調味料を用いて、後味、うま味が増強※された魚類及び魚類加工品、具体的には焼き魚、煮魚および／または練り製品、より具体的には西京漬け、味噌漬け、醤油漬け、味醂漬け、粕漬けといった漬け魚を提供することができる。

【図面の簡単な説明】

【図１】実施例８のマグロ油、大豆油、コーン油の旨味強度を測定した結果を示す図面である。

【図１】